STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

TEMPORARY PERMIT FOR DIVERSION AND USE OF WATER

APPLICATION T032981 TEMPORARY PERMIT 21410

Permittee: Yolo County Flood Control and Water Conservation District
34274 State Highway 16
Woodland, CA 95695-9371

The State Water Resources Control Board (State Water Board) authorizes the diversion and use of water by the Permittee in accordance with the limitations and conditions herein SUBJECT TO PRIOR RIGHTS. The priority of this temporary permit dates from **October 25, 2018**. This right is issued in accordance with the State Water Board delegation of authority to the Executive Director (Resolution 2012-0029) and redelegation of authority to act upon applications for temporary permits by the Executive Director to the Deputy Director for Water Rights, dated October 19, 2017.

Application for Temporary Permit

The Yolo County Flood Control and Water Conservation District (District or Permittee) filed Application T032981 on October 25, 2018, to appropriate water by temporary permit pursuant to Water Code section 1425 et seq. The District proposes to divert up to 72,000 acre-feet (af), at a maximum rate of 600 cubic feet per second (cfs), from Cache Creek to underground storage in the Yolo sub-basin for later irrigation use. Diversions are proposed to occur from January 1, 2019, through April 30, 2019 (per application amendments dated November 15, 2018), and infiltration would occur within the District's existing 160-mile canal system, most of which is unlined, and on up to 50,000 acres of agricultural land within the District's service area. Water stored underground would be extracted by overlying well-owners for irrigation use within the District's service area (up to 100,000 acres) during the 2019 irrigation season.

The District manages an extensive groundwater monitoring program within its service area, which is used to track fluctuations in the water table and to improve the accuracy of the District's groundwater model. Users in the District's service area extract substantial volumes of groundwater for irrigation. The volume of annual use varies depending on surface water deliveries and crop types, but is estimated to exceed in an average year three times the amount requested under the application. The District intends to use all water diverted and stored under this temporary permit during the 2019 irrigation season.

Application T032981 was noticed on November 9, 2018, and no objections were received; however, the State Water Board has ongoing authority to adjust the terms and conditions of a temporary permit in light of new information.

As described below, the State Water Board issued three temporary permits to the District in previous years for diversion to underground storage. The Division of Water Rights (Division) issued Temporary Permit 21363 (Application T032899) on January 31, 2018, Temporary Permit 21375 (Application T032756) on January 12, 2017, and Temporary Permit 21365 (Application T032581) on January 28, 2016.

Temporary Permit 21363 (T032899). Temporary Permit 21363 describes the same project requested in Application T032981. Under the temporary permit, the District was authorized to divert up to 72,000 af, at a maximum rate of 600 cfs, from the date of issuance (January 31, 2018) of the permit through April 30, 2018, from Cache Creek to underground storage for irrigation use. The permit authorized use of both the District's canal system and up to 50,000 acres of agricultural land for infiltration. The District diverted no water under the temporary permit, and thus did not report any beneficial use. Temporary Permit 21363 was automatically revoked upon the date of expiration on July 30, 2018.

Temporary Permit 21375 (T032756). Temporary Permit 21375 describes the same project requested in Application T032981. Under the temporary permit, the District was authorized to divert up to 72,000 af, at a maximum rate of 600 cfs, from the date of issuance (January 12, 2017) of the permit through April 30, 2017, from Cache Creek to underground storage for irrigation use. The permit authorized use of both the District's canal system and up to 50,000 acres of agricultural land for infiltration. On September 19, 2017, the District submitted a summary report, describing compliance with the terms of the permit. According to the District's summary report, the District diverted 6,210 af to underground storage, which was put to beneficial use within the District's service area by May 4, 2017. Infiltration only occurred in the canal system. Temporary Permit 21375 was automatically revoked upon the date of expiration on July 11, 2017.

Temporary Permit 21365 (T032581). Under the temporary permit, the District was authorized to divert up to 40,000 af, at a maximum rate of 200 cfs, from the date of issuance (February 3, 2016) through April 30, 2016, from Cache Creek to underground storage for irrigation use. Temporary Permit 21365 authorized use of both the District's canal system and up to 50,000 acres of agricultural land for infiltration. On September 26, 2016, the District submitted a summary report, describing compliance with the terms of the permit. According to the District's summary report, the District diverted 11,128 af to underground storage, which was put to beneficial use within the District's service area by May 12, 2016. Infiltration only occurred in the canal system. Temporary Permit 21365 was automatically revoked upon the date of expiration on July 26, 2016.

California Environmental Quality Act

Ordinarily, the State Water Board must comply with any applicable requirements of the California Environmental Quality Act (CEQA) prior to issuance of a temporary permit pursuant to Water Code section 1425 et seq. However, on April 6, 2017, Governor Edmund G. Brown Jr. issued Executive Order B-39-17. Item 3 of the Executive Order suspends CEQA for purposes of carrying out the directives in the order, including the issuance of temporary permits to capture high runoff events for local storage or recharge. Item 14 of the Executive Order requires the State Water Board to prioritize temporary water right permits to accelerate approvals for projects that enhance the ability of a local or state agency to capture high runoff events for local storage or recharge, consistent with water rights priorities and protections for fish and wildlife. The CEQA suspension applies to any actions taken by state agencies, and for any necessary permits or approvals required to complete these actions.

The District filed a Notice of Exemption (NOE) for this project on October 12, 2018. The State Water Board has reviewed the information submitted by the District and has made an independent finding that the proposed project is consistent with the suspension of CEQA in Executive Order B-39-17. The State Water Board will issue a NOE for the proposed project within five days of issuance of the temporary permit.

Requirements of Water Code section 1425

Before making the findings required by Water Code section 1425, the State Water Board must: (a) review available records, files, and decisions which relate to the availability of water from the source at the proposed point of diversion to serve the proposed temporary diversion and use, and which relate to the rights of downstream users; and (b) consult with representatives of the Department of Fish and Wildlife (CDFW). (Wat. Code, § 1427.)

Review of Water Availability

Division staff has reviewed available records, files and decisions relating to the availability of water for the project and the rights of downstream users. Based on staff estimates, 72,000 af could be diverted from January 1 through April 30 in "wet" years. The District would need to divert 600 cfs for a minimum of 60.5 days to divert 72,000 af. Staff assessed whether 72,000 af could be available for diversion in a wet year by calculating the number of days between January 1 and April 30 of wet years on which average flow at the United States Geological Survey (USGS) Gage 11452500 (Cache Creek at Yolo) [Yolo Gage], downstream of Capay Dam, exceeded 650 cfs, which would allow for a diversion of 600 cfs while maintaining a minimum bypass of 50 cfs. The Department of Water Resources Water Year Hydrologic Classification Indices indicate that the three wettest years on record for the past 20 years were 1998, 2006, and 2017 water years. In the three wettest years recorded at the Yolo Gage, average flow exceeded 650 cfs on an average of 104 days from January 1 to April 30.

This approach does not take into account certain other variables, including operational limitations (e.g., times at which flow would be too turbid for the District to divert), flood releases from Clear Lake, days on which the District would be required to comply with a higher bypass, and days on which the District would not be able to divert at 600 cfs, but could divert at a lower rate; however, the analysis indicates that 72,000 af may be available during the proposed season.

Another means to examine water availability when a project has already been implemented for several years, is to review diversion success during the past. In summary, diversion amounts under the Permittee's prior temporary permits have ranged from zero to 11,128 af/year, indicating that the District has not yet demonstrated diversion close to the maximum amount requested. Many factors influence whether the full requested amount was diverted, including actual water availability, Permittee readiness or willingness to divert when available flows occur, and other factors.

Winter 2018: Temporary Permit 21363 (T032899). Temporary Permit 21363 describes the same project requested in Application T032981. Under the temporary permit, the District was authorized to divert up to 72,000 af, at a maximum rate of 600 cfs, from the date of issuance (January 31, 2018) of the permit through April 30, 2018. On October 24, 2018, the District submitted a final summary report, describing compliance with the terms of the permit. According to the summary report, the District was not able to divert any water due to the limited rainfall. The Department of Water Resources Water Year Index for Sacramento Valley reported that 2018 water year was "below normal." The flows measured at the Yolo Gage were below the 50 cfs minimum bypass flow requirement from January 31, 2018 to March 21, 2018, and two small storms that occurred in late March and early April did not result in significant runoff through Cache Creek. The storms occurred on March 23, 2018 and April 7, 2018 and registered flow measured up to 805 cfs and 670 cfs, respectively. According to the District, the two storms resulted in a flush of sediment down Cache Creek and only allowed for a few days of stormwater diversion at the Capay Diversion Dam (Capay Dam), which was not worth the operational changes to the canal system. Division staff independently reviewed stream gage data at the Yolo Gage and confirmed that the streamflows ranged from 5.6 cfs to 32.6 cfs from January 31, 2018 to March 21, 2018. In addition, staff verified the minimum bypass requirement of 50 cfs (Term 0000204) was effective between January 31, 2018 to March 21, 2018 as Cache Creek was not hydraulically connected with the Yolo Bypass (Term 0360899).

Winter 2017: Temporary Permit 21375 (T032756). Temporary Permit 21375 describes the same project requested in Application T032981. Under the temporary permit, the District was authorized to divert up to 72,000 af, at a maximum rate of 600 cfs, from the date of issuance (January 12, 2017) of the permit through April 30, 2017, from Cache Creek to underground storage for irrigation use. On September 19, 2017, the District submitted a summary report, describing compliance with the terms of the permit. The Department of Water Resources Water Year Index for Sacramento Valley reported that 2017 water year was "wet." According to the summary report, the District diverted 41 days for a total of 6,210 af to underground storage, which was put to beneficial use within the District's service area by May 4, 2017. Diversions were initially delayed due to storm events in January and February 2017, which damaged some of the District's canal system and infrastructure. Due to the canal system and infrastructure impairment, water diversions did not occur until March 16, 2017. From March 16 through April 30, 2017, streamflows measured at the Yolo Gage ranged from 197 cfs to 2,660 cfs.

Diversions occurred on days when flows were consistent with the requirements in Term 0000204 (mean daily average flows at the Yolo Gage were above 50 cfs) or Term 0360899 (mean daily average flows at the Yolo gage were above 101 cfs when Cache Creek was considered to have hydraulic continuity with the Yolo Bypass absent diversion). Based on the information provided in the summary report, Cache Creek flows were sufficiently high to reach the Yolo Bypass 37 out of the 41 days on which diversions occurred. The amount of water diverted ranged from 47 af (23.7 cfs) to 247 af (165 cfs) per day. The Delta was in excess condition from December 11, 2016 through the entire diversion period.

Winter 2016: Temporary Permit 21365 (T032581). Under the temporary permit, the District was authorized to divert up to 40,000 af at a maximum rate of 200 cfs, from the date of permit issuance (February 3, 2016) through April 30, 2016, from Cache Creek to underground storage for irrigation use. On September 26, 2016, the District submitted a summary report, describing compliance with the terms of the permit. According to the District's summary report, the District diverted 39 days for a total of 11,128 af to underground storage. The Department of Water Resources Water Year Index for Sacramento Valley reported that 2016 water year was "below normal." Streamflows measured at the Yolo Gage ranged from 51 cfs to 2,790 cfs from February 4, 2016 to April 15, 2016 (the last day of diversion). Diversions occurred on days when flows were consistent with the requirements in Term 0000204 (mean daily average flows measured at the Yolo Gage were above 50 cfs) or Term 0360899 (mean daily average flows measured at the Yolo gage were above 101 cfs when Cache Creek was considered to have hydraulic continuity with the Yolo Bypass absent diversion). The summary report indicated that Cache Creek flows were sufficiently high to reach the Yolo Bypass 21 out of the 39 days on which diversions occurred. The amount of water diverted ranged from 1.4 af (0.7 cfs) to 397 af (200 cfs) per day. The Delta was in excess condition during the entire diversion period.

CDFW Consultation

The District began consultation on the application with CDFW staff on October 23, 2018, and Division staff independently consulted with representatives from CDFW on October 29, 2018. CDFW staff did not propose additional terms for the protection of fish and wildlife, but submitted comments on November 9, 2018, discussed further below.

The State Water Board finds that, subject to the terms and conditions included in this temporary permit: (1) the Applicant has an urgent need for the proposed diversion and use of water; (2) the water may be diverted and used without injury to any lawful user of water; (3) the water may be diverted and used without unreasonable effect upon fish, wildlife, or other instream beneficial uses; and (4) the proposed diversion and use is in the public interest. (Wat. Code, § 1425, subd. (b).) The State Water Board has also complied with its independent obligation to consider the effects of the proposed project on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 [189 Cal.Rptr. 346, 658 P.2d 709].)

This temporary permit does not create a vested right, even of a temporary nature. (Wat. Code, § 1430.) This temporary permit is not precedential to future permitting actions for this or other similar projects.

The Applicant Has an Urgent Need for the Water

The State Water Board finds that the District has an urgent need for the water proposed to be diverted and used. The Yolo sub-basin is designated a high-priority basin by the Department of Water Resources (DWR) because of the total number of wells, the high proportion of land used for irrigated agriculture, and high reliance on groundwater in the area. The Colusa sub-basin, part of which was subsumed into the Yolo sub-basin after the

most recent prioritization update,[1] is designated a medium priority basin; it also supports a high proportion of land used for irrigated agriculture, but the region has fewer wells and is less reliant on groundwater overall.

During the state's most recent multi-year drought (2012 – 2015), reduced surface water deliveries to the District's customers due to drought resulted in increased pumping from the underlying Yolo sub-basin. Declines in the water table of more than ten feet were observed from 2014 to 2015, and the water table in certain areas dropped below the reach of some wells. Since February 2016, the District has diverted approximately 17,338 af of water from Cache Creek to underground storage under Temporary Permits 21365 and 21375. Incidental recharge is also likely to have occurred due to the District's normal surface water delivery operations and precipitation events. Consequently, average groundwater levels within the District have improved since the drought years of 2014 and 2015 and are closer to 2012 levels.

The District proposes to divert water resulting from winter precipitation, when downstream water right holders are satisfied and water quality standards in the Delta are met. Given the need for improved drought reliability in the basin demonstrated by the multi-year drought (2012 – 2015), the District has demonstrated an urgent need to divert and use the water.

The Water May Be Diverted and Used Without Injury to Any Lawful User of Water

The water will be diverted and used without injury to any lawful user. This temporary permit limits diversions to an instantaneous rate and a total volume. The permit conditions diversions on maintenance of a minimum bypass flow that is protective of downstream users and fish and wildlife, and conditions diversions on attainment of water quality standards in the Delta.

Injury to downstream users on Cache Creek: Cache Creek, between the project's point of diversion and the Yolo Gage, is a permeable, losing reach, and water levels in nearby groundwater wells are closely correlated to flow in the reach. Based on infiltration rate estimates from a 1962 United States Geological Survey study, State Water Board Revised Water Right Decision 1641 (Revised D-1641) states that percolation losses along Cache Creek downstream of Capay Dam amount to 200 cfs. Preliminary analyses by the District and by State Water Board staff indicate this estimate may be too high during the proposed season of diversion. There are also two riparian claims (Statement S015676 of Howald Farms and Statement S001593 of Payne Farms) just downstream of the Yolo Gage, with a combined maximum diversion capacity of 12.3 cfs. The District represents that it discussed the project with the two users in November of 2017 and received their consent.

The District proposes maintaining a minimum 50 cfs flow at the Yolo Gage to protect downstream groundwater and riparian users. This permit requires that the District bypass 50 cfs measured at the Yolo Gage. Registering flow at the Yolo Gage indicates that flows downstream of Capay Dam are sufficient to fulfill riparian demand and recharge the local sub-basin upon which downstream groundwater users rely.

The bypass terms of the temporary permit, while protective of other legal users, should not be interpreted as restricting the District to only diverting during high stream flow events. The bypass terms may result in the District diverting a significant portion of the available stream flow at the point of diversion; however, the rate of diversion is limited to 600 cfs.

Injury to downstream users in the Yolo Bypass: The Yolo Bypass (Bypass) receives flow from Cache Creek, Knights Landing Ridge Cut, Willow Slough, Putah Creek (west side tributaries), Cache Slough, Prospect Slough, and the Sacramento River. Cache Creek is separated from the Bypass by the Cache Creek Settling Basin (Settling Basin) near the City of Woodland. During high flow events in the Sacramento River, excess water is

[1] On December 22, 2016, the Department of Water Resources adopted the 2016 Final Basin Boundary Modifications, which, among other changes, modified the boundaries of the Yolo and Colusa sub-basins. Before the modifications, the District's service area partially overlay both sub-basins. The District's service area is now located entirely within the Yolo sub-basin.

shunted into the Bypass for flood control; however, the Bypass also supports irrigated agriculture, managed wetlands, and other beneficial uses of water. Based on State Water Board records, estimates of legal demand in the Cache Creek Settling Basin and the Bypass downstream of its confluence with Cache Creek are as high as 334 cfs between January 1 and March 31, and as high as 812 cfs from April 1 to April 30. The District reports it consulted in November of 2017 with Conaway Preservation Group, LLC (Conaway), whose rights constitute 310 cfs of the estimated 812 cfs demand during the month of April. According to the District, Conaway has consented to the project as proposed in the temporary permit application and thus their diversion is not included in the injury analysis used to calculate the bypass restriction. The Deputy Director for Water Rights retains the authority to modify terms and conditions if the party later asserts injury.

At low flows, Cache Creek terminates in the Settling Basin, where water eventually evaporates or infiltrates into the ground. During higher flows and when the Settling Basin fills, water spills into the Bypass and drains, less natural losses, into the Tule Canal, the primary channel within the Bypass. When Cache Creek flow is high enough to establish hydraulic continuity with the Tule Canal, the proposed diversion may injure senior rights located within the Bypass. According to a comparative analysis of Cache Creek flows at the Settling Basin to flows at USGS Gage 11453000 at Yolo Bypass near Woodland (Woodland Gage), which measures flow in the Tule Canal near its confluence with Cache Creek, Cache Creek contributes approximately 20 percent of flow in the Tule Canal at the Woodland Gage. To protect senior rights in the Bypass when Cache Creek is hydraulically connected to the Tule Canal, diversions under this permit may only occur when the flow at the Yolo Gage is at least 20 percent of estimated downstream demand in the Bypass [i.e., 68 cfs (20 percent of 334 cfs) between January 1 and March 31, and 101 cfs (20 percent of 502 cfs) between April 1 and April 30].

Under certain conditions, inflow into the Bypass from sources other than Cache Creek is sufficient to satisfy demand in the Bypass. In years in which flows from the Sacramento River spill into the Bypass at the Fremont Weir, flow contributions from the Sacramento River are several orders of magnitude higher than runoff from the smaller tributaries, including Cache Creek, and substantially higher than total demand in the Bypass. Similarly, when flows from other tributaries to the Bypass are higher than Bypass demand, the proposed diversion would not injure users in the Bypass. When the Fremont Weir is spilling, or when flow at the Woodland Gage exceeds 1,000 cfs, all legal demand in the Bypass will be fulfilled.

Injury to downstream users in the Sacramento River and Sacramento - San Joaquin Delta (Delta): Because Cache Creek is tributary to the Sacramento River, there is potential for diversions pursuant to the temporary permit to injure the State Water Project and the Central Valley Project (Projects), operated by DWR and the U.S. Bureau of Reclamation (USBR), respectively. During "excess condition," Delta inflow is greater than that necessary to meet water quality standards. When natural flows to the Delta are insufficient to meet water quality standards, the Projects release supplemental, stored water to meet Delta water quality objectives. In times of lower flows in the Sacramento and San Joaquin Rivers, diversions under the temporary permit may impact water quality in the Delta.

During consultation for the District's first temporary permit Application T032581, DWR and USBR indicated they would not be injured if diversions under the temporary permit occurred at times when the Delta is in excess condition or when there is a lack of hydraulic continuity between Cache Creek and the Delta. On October 31, 2018, USBR noted that they have no objections to the proposed project provided the District complies with the same terms and conditions imposed in Temporary Permit 21363 (T032899). This temporary permit includes all of the terms and conditions imposed in Temporary Permit 21363. First, to protect Sacramento River and Delta water users subject to Term 91, the State Water Board will require the District to comply with Term 91. The State Board also reserves the authority to immediately reduce or halt diversions under this temporary permit in light of any indication of injury to downstream users. The temporary permit also prohibits diversions unless the Delta is in excess condition when Cache Creek is hydraulically connected to the Bypass. While Revised D-1641 excluded the Cache Creek watershed from curtailing diversions under Term 91, this temporary permit allows diversions in circumstances different from those contemplated in Revised D-1641. The proposed diversion season under this temporary permit is largely outside the irrigation season, when the District's pre-1914 water rights are generally exercised.

The State Water Board has reviewed available records, files, and decisions relating to the availability of water for the project and has determined that the recommended permit terms will prevent injury to downstream lawful users. The State Water Board will require the District to comply with these limitations as conditions of this permit.

The Water May Be Diverted and Used Without Unreasonable Effects upon Fish, Wildlife, or Other Instream Beneficial Uses

The diversion and use of water under this temporary permit will not have unreasonable effects upon fish, wildlife, or other instream beneficial uses within the watershed. The permit authorizes diversions only when flows are reasonably high, to meet both the needs of fish, wildlife, and other instream resources, and the demands of downstream right-holders. The District intends to bypass peak flows because of higher turbidity that is not conducive to recharge, which will allow localized inundation of riparian habitat and general channel formation. The Settling Basin acts as a barrier to fish passage from the Sacramento River to Cache Creek in drier years, and Lower Cache Creek is not known to currently support any special-status aquatic species. A number of native and introduced warmwater fish species appear downstream of Capay Dam, including Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), common carp (*Cyprinus carpio*) and bluegill (*Lepomis macrochirus*). Fish surveys conducted in 1997 and 2008 suggest introduced species dominate these reaches. The temporary permit requires that the District bypass sufficient flow at Capay Dam to maintain a flow of at least 50 cfs at the Yolo Gage. As the section of Cache Creek between the Capay Dam and the Yolo Gage is a losing reach, this minimum bypass requirement will prevent dewatering of the channel and stranding of any resident fish. The District will also monitor the reach from Capay Dam to the Yolo Gage to assure a live stream exists during diversions.

Changes in flows in the Bypass could affect migrating special-status anadromous species. Migrating state and federally endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), state and federally threatened Central Valley spring-run Chinook salmon, federally threatened Central Valley steelhead (*O. mykiss*), and federally threatened Southern Distinct Population Segment green sturgeon (*Acipenser medirostris*) sometimes enter the Bypass, attracted by tidal influence in Cache Slough or flows over Fremont Weir or the west-side tributaries, including Cache Creek, instead of continuing up the Sacramento or San Joaquin River. At certain flows, artificial structures in the Tule Canal (which becomes the Toe Drain) and the Toe Drain may become barriers to fish passage, particularly for sturgeon, which require deeper water and a wider channel than salmon and steelhead; consequently, reductions in flow in the Toe Drain could affect fish passage within the Bypass for migrating fish that may enter the Bypass during higher flows. As noted above, flows in the Toe Drain are influenced by multiple tributaries, and Cache Creek is only hydraulically connected to the Bypass when flows in Cache Creek are sufficiently high. During consultation on previous Application T032756, CDFW staff was not aware of any known minimum flows necessary to ensure fish passage within the Toe Drain.

As described above, Cache Creek's flow contributions to the Bypass are relatively insignificant in years when the Fremont Weir spills, and proposed diversion would likely not affect fish passage within the Toe Drain under these conditions. In years in which the Fremont Weir does not spill, the 2001 Yolo Bypass Management Strategy report includes an estimate of Cache Creek's impact on river stage at DWR's Yolo Bypass at Lisbon Gage (Lisbon Gage), located 14.7 miles downstream of where Cache Creek flows enter the Tule Canal. Based on Cache Creek maximum flows and increases in stage at the Lisbon Gage for several similar events, the report estimates stage at the Lisbon Gage increases approximately one foot for every 2,000 cfs of flow in Cache Creek, although the observed increase was likely affected by higher flows from other local tributaries during the same storm events.

To better characterize flows in the Toe Drain when the Settling Basin is spilling but the Fremont Weir has not, staff compared available flow data at the Lisbon Gage to flow data at the Settling Basin's overflow weir (USGS Gage 11452800, Cache Creek Overflow Weir from Settling Basin near Woodland [Settling Basin gage]) during the proposed diversion season from 2008 through 2015. According to the data, the Settling Basin spills when flow is already relatively high at the Lisbon Gage: over the available record, the Settling Basin spilled 183 days (19% of the days considered), 81% of which corresponded with Lisbon Gage flows above the 75th percentile for those

dates (1,198 cfs). When only considering dates when flow was not affected by inflow from the Fremont Weir, the Settling Basin spilled 54 days (9% of the days considered), 81% of which corresponded with Lisbon Gage flows above the 75th percentile for those dates (705 cfs). Cache Creek is less likely to be hydraulically connected to the Toe Drain during periods of more limited flow, and when Cache Creek is connected, the District is required to maintain a higher minimum bypass and restrict diversions to periods when the Delta is in excess condition. In the event of unusual circumstances in the Bypass, this temporary permit allows the Deputy Director for Water Rights to halt diversions for the protection of candidate, threatened, or endangered species. Based on available evidence, the proposed diversion would not unreasonably affect fish passage for migrating special status fish within the Bypass.

Yolo County and UC Davis Center for Watershed Sciences are currently implementing the Yolo Bypass Westside Tributaries Flow Monitoring Project, which is funded by a Proposition 1 grant. The purpose of the project (estimated to be completed by June of 2019) is to improve understanding of the timing and magnitude of inflows from the west-side tributaries to the Bypass, including Cache Creek, in order to determine their relative influence compared to large inflows from the Sacramento River. The information will be used to inform development of state and federal proposals to increase the frequency and duration of inundation in the Bypass for fish habitat, among other objectives. The results of the study may also inform future analyses of the effects of proposed diversions from Cache Creek on fish and wildlife in the Bypass.

Inundating undeveloped lands or sensitive habitat for use as infiltration areas could impact special status species. This permit contains a term to restrict inundation to actively farmed, developed lands within the District's service area.

In October of 2018, the District and Division staff consulted with CDFW staff on the project's potential to impact fish and wildlife. CDFW reiterated their concerns identified in comments related to Application T032756 including: (a) ecological impacts of reduced variability in the hydrograph in Cache Creek downstream of the point of diversion; (b) impacts on sturgeon passage in the Toe Drain in the Bypass; and (c) potential stranding of fish in the District's canals. Moreover, CDFW staff raised new questions related to the proposed project diversions including: (1) potential for entrainment of resident fish present in Cache Creek in the reach above Capay Dam; (2) potential impacts on salmon redds and/or emigrating juvenile salmon (December - April) should fall-run Chinook salmon ascend into Cache Creek when hydraulically connected with the Bypass, as well as emigrating resident trout/steelhead (*Oncorhynchus Mykiss*) [January – May]; and (3) potential impacts to inundation and duration of seasonal floodplain habitat within the Bypass with consequences on juvenile salmon.

CDFW did not object to issuance of a temporary permit pursuant to Application T032981 and did not propose any additional terms and conditions, but stated an intent to gather additional information about these questions for purposes of future permitting. In particular, if the District pursues a standard permit for the project, CDFW stated that it would need additional information on impacts to flow in Cache Creek and the Tule Canal, impacts to resident fisheries in Cache Creek, and the District's accounting of storage and pumping of the water, to evaluate the diversion's effects on fish and wildlife.

During consultation, CDFW staff also noted the need for projects whose activities have the potential to affect groundwater to coordinate with appropriate Groundwater Sustainability Agencies (GSAs). GSAs are responsible for the development and implementation of Groundwater Sustainability Plans (GSPs) that will ensure long-term groundwater sustainability. CDFW staff recommends early coordination with GSAs to determine how groundwater-related projects in a basin may impact groundwater dependent ecosystems and to aid in the development of sustainability goals, minimum thresholds, and measurable objectives for comprehensive sustainable management criteria. The District is a member agency of the Yolo Subbasin Groundwater Agency (YSGA) – the GSA for the Yolo Subbasin. The District will coordinate diversions under this permit with the YSGA.

The Proposed Diversion and Use Is in the Public Interest

The proposed diversion, storage, and use of water are in the public interest. Capture and storage of flows that would otherwise be unused will help mitigate effects of the drought on water supplies for agriculture, businesses, communities, and fish and wildlife. Augmentation of groundwater supplies will enhance local drought resiliency, particularly after several years of severe drought. The California Natural Resource Agency's California Water Action Plan, originally released in 2014 and updated in 2016, calls for increased regional self-reliance and integrated water management, including conjunctive use of groundwater and surface water supplies.

The proposed diversion is the fourth year of the pilot project begun in early 2016 under Temporary Permit 21365. According to the District, the objective of the pilot project is to demonstrate the feasibility of projects that use available winter precipitation events to recharge local groundwater. The project may provide the basis for a standard permit application by the District to divert water from winter precipitation events to underground storage for use within the water suppliers' service area.

The District and Division staff consulted with the Central Valley Regional Water Quality Control Board (Regional Board) on the proposed project. Regional Board staff indicated that they have no concerns to the proposed project provided the District complies with the same terms and conditions imposed in Temporary Permit 21363 (T032899). This temporary permit includes the same water quality terms to protect against adverse impacts to groundwater quality by requiring that lands used for infiltration be in compliance with the Irrigated Lands Regulatory Program or be managed under management practices for fertilizer application.

Permittee is hereby authorized to divert and use water as follows:

1. Source of water: Cache Creek

tributary to: Yolo Bypass thence the Sacramento River thence the Pacific Ocean

within the County of **Yolo**.

2. Location of point of diversion to underground storage and infiltration areas.

By California Coordinate System of 1983 in Zone 2	40-acre subdivision of public land survey or projection thereof	Section (Projected)	Township	Range	Base and Meridian
Capay Diversion Dam **North 2,021,690 feet and East 6,537,478 feet**	**NE¼ of SE¼**	**16**	**10N**	**2W**	**MD**
Infiltration Areas	Within the Yolo County Flood Control and Water Conservation District service area boundary as shown on map filed with the State Water Board and supplemented by Term 0100500.				

3. Purpose of use	4. Place of use
Irrigation	Up to 100,000 acres within the Yolo County Flood Control and Water Conservation District service area boundary as shown on map filed with the State Water Board.

The infiltration areas and place of use are shown on map, dated October 25, 2018, on file with the State Water Board.

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed **72,000 acre-feet** by diversion to underground storage to be collected from January 1, 2019 to April 30, 2019. The maximum rate of diversion from Cache Creek to underground storage shall not exceed **600 cubic feet per second**. This permit expires **180 days** from the date of its issuance, but may be renewed by the State Water Board.

(0000005C, 0000005J, 0510700)

6. Prior to diversion of water under this temporary permit, Permittee shall submit for approval by the Deputy Director for Water Rights a plan for measurement and accounting of water diverted to underground storage and extracted for beneficial use. If water diverted to underground storage will be extracted by persons other than the Permittee, the plan shall set forth how the Permittee will quantify extraction and use, and determine that the extractions are from water stored by the Permittee and not based on other claims of right. The plan shall be implemented as approved by the Deputy Director.

(0089999)

7. No water shall be diverted under this temporary permit unless the Permittee monitors and records the rate of diversion and quantity of water diverted to underground storage and total amount placed to beneficial use under this temporary permit. Permittee shall use a measuring device or other method satisfactory to the Deputy Director for Water Rights. The device or method shall be capable of quantifying the hourly rate and volume of diversion and shall be properly maintained.

   Permittee shall maintain a daily record of the volume of water diverted and the maximum daily rate of water diverted. If Permittee is using the point of diversion under other rights, the record of diversion shall be separately quantified. Permittee shall also record the total quantity of water placed to beneficial use. A copy of the records shall be submitted with the report required by Term 0100500 or whenever requested by the Division of Water Rights.

   The issuance of this water right does not affect the applicability of measuring and monitoring requirements of California Code of Regulations, title 23, chapters 2.7 and 2.8. If there is any conflict or inconsistency between conditions in this right for measurement, monitoring, and reporting of water use, and applicable regulations, the more stringent requirement or requirements shall control in each instance.

(0109999)

8. For the purposes of payment of fees associated with diversions greater than 10,000 acre-feet, Permittee shall submit additional fees pursuant to California Code of Regulations, title 23, section 1062(a)(1)(E) within 30 days of actual diversion over 10,000 acre-feet. The fees shall be accompanied by a report of the amount actually diverted.

(9999999)

9. Permittee shall submit a report to the State Water Board within 60 days after the expiration of this permit. The report shall include the total quantity of water diverted under this temporary permit and any other amounts diverted from the point of diversion under other bases of right during the reporting period, the quantity of water applied to beneficial use, and a map of the location and acreage of fields used for infiltration. The report shall also include:

   a) Daily records of the volume and the maximum rate of water diverted under this temporary permit;

   b) Corresponding daily Delta water conditions (i.e. in balance or in excess) to document compliance with Term 0360898;

   c) Corresponding daily mean flow as recorded at the USGS Gage 11452500 on Cache Creek near Yolo (Yolo Gage), the USGS gage 11452800 at Settling Basin, and the DWR Fremont Weir Gage

and USGS Gage 11453000 at Yolo Bypass near Woodland as appropriate to document compliance with Terms 0000204 and 0360899; and

d) Stream flow monitoring records between the point of diversion and the USGS Gage 11452500 on Cache Creek at Yolo to ensure a live stream exists during diversions.

(0100500)

10. If Permittee intends to store water diverted under this temporary permit for more than 180 days, Permittee must submit a plan to the Deputy Director prior to the expiration of this permit detailing how Permittee will calculate the expected losses of the stored amount over time, including timelines for any field or modeling investigations that will be conducted.

(0490800)

11. No water shall be diverted under this temporary permit, unless the flow in Cache Creek is at or above 50 cubic feet per second, as measured at the USGS Gage 11452500 (Cache Creek at Yolo [Yolo Gage]) as a mean daily average.

(0000204)

12. The Permittee shall monitor daily the USGS Gage 11452800 (Cache Creek Overflow Weir from Settling Basin [Settling Basin Gage]) and whenever this Gage reading reaches 34.2 feet or other information indicates that Cache Creek and the Yolo Bypass would be hydraulically connected absent diversion under this permit, no water shall be diverted under this permit unless:

a) From January 1 through March 31, 68 cubic feet per second, or more is measured at the Yolo Gage, and from April 1 through April 30, 101 cubic feet per second or more is measured at the Yolo Gage; or

b) The river stage measured at the Sacramento River at Fremont Weir Gage is above 33.5 feet or the flow measured at USGS Gage 11453000 (Yolo Bypass near Woodland) is at or above 1,000 cubic feet per second.

Hydraulic continuity between Cache Creek and the Yolo Bypass shall be calculated on a daily basis. In the event that any of the gages or monitoring devices is no longer available for streamflow measurements, the Permittee shall immediately notify and consult with the Deputy Director for Water Rights regarding the substitute gage or gages to be used to determine the appropriate minimum flow requirements.

(0360899)

13. No diversion is authorized by this temporary permit when satisfaction of inbasin entitlements requires release of supplemental Project water by the Central Valley Project (CVP) or the State Water Project (SWP).

a) Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the State Water Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.

b) Supplemental Project water is defined as that water imported to the basin by the projects plus water released from Project storage which is in excess of export diversions, Project carriage water, and Project inbasin deliveries.

The State Water Board shall notify Permittee of curtailment of diversion under this term after it finds that supplemental Project water has been released or will be released. The Board will advise Permittee of the probability of imminent curtailment of diversion as far in advance as practicable based on anticipated requirements for supplemental Project water provided by the Project operators.

(0000091)

14. Whenever the Settling Basin Gage reading reaches 34.2 feet or other information indicates that Cache Creek and the Yolo Bypass would be hydraulically connected absent diversion under this permit, no water shall be diverted under this permit unless the Delta is in excess condition as described in Decision 1641. Temporary changes to Delta outflow requirements shall not affect applicability of this term. Permittee shall monitor daily the CVP-SWP Coordinated Operation Agreement to determine whether the Delta is in balance condition or excess condition.

(0360898)

15. No agricultural field shall be inundated for infiltration under this temporary permit unless:

a) The field has been in compliance with the Irrigated Lands Regulatory Program for, at minimum, the two most recent growing seasons; or

b) The following apply:
   i. the field has been operated under management practices for fertilizer application for at least two growing seasons; and
   ii. the field has not had fertilizer applied within the last three months.

Permittee shall document compliance with this term. A copy of the documentation shall be submitted with the report required by Term 0100500 or whenever requested by the Division of Water Rights.

(0400501)

16. No water shall be applied to Dairy land application areas for infiltration under this temporary permit unless the Permittee has provided notification and received concurrence from staff of the Central Valley Regional Water Quality Control Board. Permittee shall, within 15 days of issuance of any concurrence, transmit copies to the Division of Water Rights.

(0390501)

17. The Permittee must cease diversions at the direction of the Deputy Director for Water Rights. The Deputy Director will direct the Permittee to cease diversions upon a finding that the conditions described in Term 0000091 are likely to occur; the diversion threatens to injure downstream senior right holders; the diversion creates a threat to human health or safety; or the diversion is likely to result in “take” of a candidate, threatened, or endangered species.

(0359999)

18. Water applied for infiltration outside of the Permittee’s existing canal system shall only be applied to previously irrigated and developed agricultural fields not used for crop production at the time of application.

(0400500)

19. The State Water Board may supervise diversion and use of water under this temporary permit for the protection of lawful users of water and instream beneficial uses and for compliance with permit conditions. Permittee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by the State Water Board, reasonable access to project works to determine compliance with the terms of this temporary permit.

(0480600)

20. This temporary permit is issued and Permittee takes it subject to California Water Code, Division 2, Chapter 6.5, section 1425 et seq. Any temporary permit issued under this chapter shall not result in creation of a vested right, even of a temporary nature, but shall be subject at all times to modification or revocation at the discretion of the State Water Board.

(0510800)

21. Water available for diversion under this right is subject to diversions solely for flood control purposes made by, or at the direction of, a local or state agency with authority over flood control or flood response.

(0350999)

22. Issuance of this temporary permit shall not be construed as indicating State Water Board approval of water right permits requested under other applications.

(0510999)

23. Permittee shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and documentation of compliance with the terms and conditions of this temporary permit.

(0000010)

24. No water shall be diverted or used under this temporary permit unless Permittee has obtained and is in compliance with all necessary permits or other approvals required by other agencies.

(0000203)

25. This temporary permit does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this temporary permit, Permittee shall obtain any required authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this temporary permit.

(0000014)

STATE WATER RESOURCES CONTROL BOARD

ORIGINAL SIGNED BY:

Erik Ekdahl, Deputy Director
Division of Water Rights

Dated: DEC 19 2018